DRAFT

MEMORANDUM FOR: Director Central Intelligence

FROM   : Director Data Processing
                Director, Office of Central Reference

SUBJECT   : SAFE Concerns

REFERENCE   : Your ----

1. The enclosed response to the STAP memorandum
is submitted for your use in preparing for our meeting
on this subject.

STATINTL   2. We propose that Mr. ██████ present a brief summary
elaborating on the enclosed material and be prepared to
discuss the project status and direction as you see fit.

STATINTL   3. Messrs. ████████████████████████ have provided
one short briefing on SAFE to the STAP. It appears that
a more extended interaction with that body is in order.

4. The first enclosure addresses your expressed specific
concerns. The second, the remainder of the STAP memorandum.

CONCERN:

1.0 What steps are being taken to ensure that the Agency, rather than the contractor is in control of the technical aspects of the design of the system?

RESPONSE: *We certainly agree that strong Agency technical management is essential and we believe (K)*

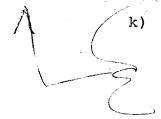1.0 In recognition of the problems of technical communication and management control comp*o*unded by geographical separation a number of steps have been taken as follows:

a) The Government has contracted for a system development rather than technical effort. The contractor is responsible for ~~the technical~~ *that* development with government controls as noted below.)

b) (The Government defines the functions and performance of the system as seen from a users perspective.

c) (The development is performed to government requirements specification in accordance with MIL Stds. 490 and 154 with government approval required of all specifications and designs.)

d) (The Government approves all solicitation documents, evaluation plans and contract awards by TRW.

e) Monthly formal project reviews are conducted by *the*
CSPO. *Consolidated SAFE Project Office (CSPO),*

f) Technical staff interaction daily by phone and
virtually continuously through travel maintains
communication.

g) The contractor has several permanent representatives
located in Rosslyn.

h) A full time representative is being considered for
transfer to California.

i) Travel will continue to be heavy in any event.

j) Delays in decision making are not geographical
problems. They are problems associated with hard
choices. An on-site representative could provide
oversight and some guidance but those problems
of larger scope are not one-man problems.

k) The Agency has in place a strong technical management
team. The contract effort is under control and the
needs of two Agencies are being addressed successfully.

CONCERN:

2.0 How is SAFE management ensuring that a final working system has been developed from the continuing evolution of an operationally valid pilot system? How has SAFE taken advantage of the experience of similar, very large systems in their:

1) system architecture,
2) communication and control, and
3) changing performance requirements?

Insert next 3 questions. ⇒

RESPONSE:

2.0 The "operationally valid pilot system" from which evolution will take place is the IOC system. *which will be delivered at IOC in 1982.)* Experience with the "Interim" *(init. in 1973)* SAFE system is being used in building the operational system. Data and usage patterns, as well as user reactions, are used in requirements specifications, system sizing, function allocation and usage scenario development. ~~Further~~, message and query analyses are being used to estimate traffic on the ~~"final"~~ system.

In order to ensure future adaptability and capability to meet changing • evolving needs, We have dictated the maximum use of general purpose ~~ADPE~~ *computers* and software to ensure that the changes required in future years can be accommodated.

The system architecture proposed is based on TRW and Government experience with large systems. It distributes communications and control functions as well as file processing such that bottlenecks are avoided and parallel expansion is possible without redesign. New functions may be added at

either the top ~~on~~ or mid-level processors ~~,and~~ functions may be

moved between levels to compensate for loading or usage changes.

We expect the initial system to have ~~many~~ shortcomings.

All major systems do. ~~We are striving to~~ do two things:

a) Provide valuable and reasonable service to a

   significant ~~user~~ population and

b) Permit change and improvement in future years.

We expect however, that the initial system ~~to~~ will provide significant

improvements in service and value over the current environment.

The ~~STAP~~ cautionary note in the STAP memorandum is well founded. We should expect ~~an~~ to the.
~~we~~ a year to introduce the ~~quality service,~~ ~~and~~ after which of
~~introductory period for services of~~ up to a year ~~and further~~
system will continue to evolve
~~should expect to continue evolution in future years.~~ The

SAFE budget for 1982 and beyond recognizes this process.

~~Again, the IOC~~ system is the "operationally valid" pilot

system from which the long range system will evolve.

CONCERN:

3.0   The SAFE user community consists of Intelligence
Community analysts covering the full spectrum of research
into foreign political, military, economic, scientific,
and technological activity. Their effective use of this
system and, ultimately, the quality of intelligence they
produce rest on whether their real needs can be identified
and satisfied by the system.

RESPONSE:

3.0   ~~(See item C)~~

There has been more user involvement in the definition

of the SAFE System than any system with which we are

familiar. The interaction is continuing to refine and

revalidate the system functions with the user. ~~We come~~

~~precariously close at times to providing too much input~~

~~to the process~~ and de_railing the development effort. The

CSPO maintains the balance of interactions with the contractor

and – through ~~user representatives~~ – the user.

All data gathered on the interim system usage has

been forwarded to TRW. All prior study material has

likewise been forwarded. These data are used to develop

system design and flow threads.

CONCERN:

4.0   How can the Agency make a reasonable evaluation of the
current status of SAFE with major portions of the proposed
operational capabilities either unspecified or uncommunicated
to the Agency? For example,

    1)   the user command language and its parsing,
    2)   the user programming language,
    3)   the user editing languages, and
    4)   procedures for backup, including regeneration of
derived files lost in crashes.

RESPONSE:

4.   _All_ operational capabilities *including user languages to backup capability,* required are specified in
the *spelled out* CSRD written by the Government. The contractor's

translation of those capabilities to system design are

encompassed in ~~the "A" Specification, System Design Specification~~ *numerous systems;*

~~and~~ sub-system and element specifications. These are being

developed on schedule with a normal amount of difficulty.

Problems are addressed early in the process and corrective action

is taken. ~~Frequent meetings and exchanges of documents and~~

~~views are expected to yield an acceptable result when the~~ *results in response;*

~~design documents are prepared.~~ Contract schedule, cost and

management are all monitored for signs of difficulty.

For example, (languages)

CONCERN:

5.0 What actions are under way to insure that the Intelligence Community has access to CIA SAFE and that CIA SAFE has access to DIA SAFE as well as such systems as COINS and SOLIS?

RESPONSE:

5.0 The basic system requirement has been given the

contractor to provide interconnection between the two Agencies.

Five lines will be provided with expansion capacity to 25.

The control of access, differing security clearance practices

and control of limited access information will have to be

worked out among the using and security organizations of the

Agencies. With the security features of the system being

developed, it is hoped that administrative procedures and

STATINTL software safeguards will be adequate.

Generalized community access has not been envisioned

in the initial system and presents additional security and,

more vitally, loading problems. ~~Provisions for further~~

~~linkages can be provided for later use, but the use of~~

such a linkage must be defined early within the community

~~if it is to be developed.~~ As already noted in the

response to Q 7,

This is a major deviation from the basic SAFE concept.

We believe that a "community" system should be developed

after SAFE and that SAFE would be a prototype for replication

and potentially be a node in a community network.

STATSPEC

CONCERN:

6.0 How will SAFE deal with open source material? Will ▮▮▮
material, either finished publications or field reporting,
be made available to the analyst through SAFE? How will SAFE
deal with current newspaper and journal entries?

STATINTL   RESPONSE: *June 1 from* ▮▮▮

STATSPEC   6. ▮▮▮ is an input to SAFE. Both finished ▮▮▮ rep STATSPEC

and raw input are supplied to SAFE. Other open sources

have not been planned for on-line access. Wire services, if

subscribed to, can be added either on-line or as separate

collectors for periodic input to SAFE. Data banks such as

N.Y. Times may be added, with adequate protection, for use

from analysts workstations. This has not been asked for, but

if required by the user it may be added at moderate expense

as a controlled link. It is currently available in the

Terminal Access Room and this indirect link will be used

initially.

CONCERN:

7.0   What steps are being taken to ensure that SAFE will be designed to allow collaborative usage?

RESPONSE:

will be a part of SAFE

7.   Teleconferencing ~~will not be eliminated or deferred~~ ~~for later~~ implementation as initially proposed by TRW.   This will be permitted between ~~Agencies~~ *CIA and OIA* as well as within each Agency, *within security constraints as noted in the response to Q 5.*

The generalized routing function will also be used for staffing and coordination as well as for further dissemination of information. *security item.*

We agree that these functions will be of considerable value.   Conferencing has consistently appeared low on the list of priorities since routing partially fulfilled that need.

CONCERN:

8.0 What steps are under way to ensure that in the procurement of major hardware items, these items will be compatible with existing Agency systems?

RESPONSE:

8. The Agencies involved have different hardware. CIA/ODP uses is an IBM shop while DIA is Honeywell. Compatibility has been factored into the hardware RFP and a value set on it, for cost evaluation. Incumbent vendors thus have a cost advantage roughly equivalent to anticipated cost of supporting varied architectures.

Interconnection is planned and is part of the contracted effort. The interface software for SAFE has been considered as a direct contract cost. The existing system protocols are specified to which SAFE must interface.

CONCERN: C.   "As Described by -........

RESPONSE: The SAFE user community has defined the functions
which the system is to perform. The Consolidated
SAFE Requirements Document, *(CSRD)* which is the foundation
of the technical development, was developed with
and largely by the *NFAC and DIA* using community.   In the CIA
this work began in 1972 and has included:

o   Pilot groups of 50 analysts defining useful
    functions

o   Pilot systems development in 1973/4

o   Pilot branches to date provide usage data

o   User work shops in 1975

o   600 analyst survey in 1976

o   SAFE Procedures Development Laboratory

o   Project Upstairs/Downstairs with analysts

o   Newsletters

o   Direct interaction with CSPO and contractor
    of NFAC user representatives

In DIA there are 57 points of contact in user organizations
who provide advice on requirements and are fully informed
of project status.   An extended data collection effort
from 1977 to the present has developed user requirements
which have been staffed with top level user management.

Four former analysts are resident in the CSPO
to control the flow of *and review* requirements and to ensure
that they are met.   This group coordinates heavily
with both Agencies.

CONCERN: D.   How can CIA ---....

RESPONSE: The Government defines the functional and
operational capabilities of the system.   The
Consolidated System Requirements Document is
a contractually binding document.   The current
evaluation of SAFE centers primarily on the
contractor's performance in meeting the require-
ments.   In such areas as user language development,
a close interaction with the user representatives
and the contractor to minimize the time required
for a satisfactory language definition.   For example,
Mr. ████████████████ of NFAC worked with TRW
the week of 17 March in a continuing liaison to
ensure that user scenarios used for language/
interaction definition and design are correct.

STATINTL

CONCERN: B.   How will SAFE deal with Open Source Material?

STATSPEC   RESPONSE: ████ continue as a direct input to SAFE.   Raw

input is provided electrically.   Other open

source material is available on separate terminals,

but may be accumulated directly if required.

Interactive data bases and their use require

connections with outside communications which

have been forbidden on security grounds.   An

intermediate process can be introduced to

provide isolation should vastly improved access

be required by the user.

Vast quantities of open source material are

and will be entered by OCR and individual analysts

from periodicals, newspapers, etc.   OCR has begun

experimentation wtih Optical Character Reader

processing of printed copy.   This may provide

further input in significant volumes.

Response to Specific Concerns Regarding SAFE

CONCERN: A.   There are no plans at present to connect
                  the CIA and DIA SAFE Systems.

RESPONSE: The CIA and DIA SAFE systems will be interconnected.

            Since neither Agency's users have specified this

            connection as a requirement, the contractor did

            not include it in his initial System Requirements

            Specification. The project office has initiated

            a change order to include the connection in early

            1984. Five lines are planned initially with expansion

            capacity to twenty-five in the initial design.

                 DIA SAFE has access to COINS and thus to

            to SOLIS. The CIA analyst will thus be able to

            access these systems via this link.